COURSE DESCRIPTION: Application of biological, economic, and planning principles to address the sustainable management of forest resources with emphasis on the timber resource and associated products.

OBJECTIVE: Learn the concepts and methods of managing forests for sustainable timber production in combination with other management goals. This includes the concepts of forest growth and yield, forest regulation, forest finance and economics.

INSTRUCTOR: Dr. Roger A. Williams
367C Kottman Hall
Email: williams.1577@osu.edu
Office hours: by appointment.

LOCATION AND TIME: Kottman Hall, room 245 T, H 12:45 - 2:05pm


NOTE: The textbook is not required, but is recommended. New and used textbooks can be purchased at many of the bookstore websites (Amazon, Barnes and Noble, etc.). Older editions can also be purchased and used, and are often cheaper. Reserve copies of the text will be placed in the Agricultural Library located in the Ag Admin Building.

COURSE GRADING

<table>
<thead>
<tr>
<th>Course</th>
<th>Percent</th>
<th>Percent</th>
<th>Letter</th>
<th>Letter</th>
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</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>20%</td>
<td>93 – 100%</td>
<td>A</td>
<td>A</td>
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<tr>
<td>Exam 2</td>
<td>20%</td>
<td>89 – 92%</td>
<td>A-</td>
<td>73 – 75%</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
<td>86 – 88%</td>
<td>B+</td>
<td>69 – 72%</td>
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<tr>
<td>Homework</td>
<td>20%</td>
<td>83 – 85%</td>
<td>B</td>
<td>66 – 68%</td>
</tr>
<tr>
<td>Group Project</td>
<td>10%</td>
<td>79 – 82%</td>
<td>B-</td>
<td>60 – 65%</td>
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<td>TOTAL</td>
<td>100%</td>
<td>76 – 78%</td>
<td>C+</td>
<td>&lt; 60%</td>
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Homework Points

1. Mean and Periodic Annual Increment 10
2. Forest Growth 20
3. Area Regulation- Even-aged 20
4. Area Regulation- Uneven-aged 20
5. Annual Cut- Austrian Formula 15
6. Volume Regulation- Hanzlik Formula 25
7. Growth & Yield Model- SPBLOB 20
8. Forest Financial Analysis 25
9. Linear Programming 25

TOTAL 180
Group Project
The class will be divided into groups (group size dependent upon class size) for this exercise. Using the SPBLOB computer model and economic analysis methods learned in class, groups will determine what the best forest management strategy should be based on forest yields and economic feasibility within the given forest project parameters. The project parameters will be given at the time of the assignment of the group project. The group project is graded on a percent basis.

EXAM DATES:  Exam 1:  Thursday, February 13  
Exam 2:  Thursday, March 26  
Final Exam:  Thursday, April 23, 2:00pm – 3:45pm

OTHER IMPORTANT DATES:  March 10, 12:  No Class (spring break)  
April 16:  Last day of class

COURSE EVALUATION AND MISCONDUCT:  Final averages will be rounded upward to the next highest whole number for assigning letter grades, and letter grades are assigned as indicated on the previous page. All concerns about grades must be presented to me in writing within 5 days after you are informed of the grade. Written proof (e.g., doctor’s excuse) must be presented to acquire excused absences, or if known ahead of time, please consult with the instructor concerning your planned absence. Academic misconduct of any type will not be tolerated, as required by the university policy (Faculty Rule 3335-5-54) on academic misconduct: “Each instructor shall report to the Committee on Academic Misconduct all instances of what he or she believes may be academic misconduct.”

HOMEWORK POLICY:  All homework assignments will due on the date indicated by the instructor. A 10% reduction in grade will apply for each day an assignment is late (including weekends). Even though some assignments might be performed as group activities, each individual will be required to turn-in their own assignment. The only exception will be the group project, where the class will be broken into management teams, and each team will submit a final project report.

COURSE OUTLINE (TOPICS)

I. Introduction (Chp. 1)  
   a. What is forest management and sustainability?  
   b. Current Resource Overview- Industrial Perspective  
   c. Forest management decisions and approaches (overview)  
   d. The management driver – policy and goals

II. Forest Management Concepts (Chp. 2)  
   a. Ecological– natural disturbance patterns  
   b. Economic– maximizing net benefits  
   c. Social benefits and policy

III. Basic Elements and Methods of Forest Management (Chp. 3)  
   a. Understanding the forest – You need to get to know your forest  
   b. Strategic vs. Tactical vs. Operational Levels of Planning  
   c. Developing prescriptions  
   d. Use of land classification  
   e. Predictions of conditions and outcomes for management planning
f. Selecting the appropriate silvicultural system

IV. Fundamentals of Forest Growth, Structure, and Development (Chp. 4)
   a. Measures of forest growth
   b. Long-term forest structure and dynamics—quantification
   c. Effects of site quality, density, and stocking

V. Classical Approaches to Management (Chp. 10)
   a. Industrial Approach
   b. Area control to regulate forests
   c. Volume control to regulate forests
   d. Combination of area and volume regulation
   e. Harvest scheduling

VI. Forest Growth Models (Chp. 5)
   a. Whole stand models—variable density and density free
   b. Diameter class models
   c. Individual tree models

VII. Forest Finance and Valuation (Chps. 7, 8)
   a. Stand-level financial analysis
   b. Valuation and appraisal of stands, timber and timberland
   c. Valuation of forest land
   d. Economic evaluation of management strategies
   e. Stumpage appraisal and use
   f. Valuation of non-timber outputs
   g. Estimation of demand and willingness to pay
   h. Considerations of forest product choices

VIII. Linear Programming
   a. Use in management strategies
   b. Optimization and Maximizing concepts and use

IX. Christmas Tree Management
   a. Site and species selection
   b. Site preparation and planting
   c. Maintenance and management
      i. Fertilization and herbicides; mowing
      ii. Shearing—timing and methods
      iii. Risk management
      iv. Harvest scheduling
   d. Marketing
   e. Economic analysis and evaluation
   f. Safety in management operations

X. Maple Syrup Production
   a. Planning a Maple Syrup Operation
   b. Managing Maple Trees for Sap Production
   c. Maple Sap Production—Tapping, Collection, and Storage
   d. Maple Syrup Production
   e. Syrup Filtration, Grading, Packaging, and Storage
   f. Maple Sugar, Maple Cream, Maple Candy, and Other Products
   g. Marketing Maple Products
   h. Economics of Maple Syrup Production
   i. Maple Production Facilities and Safety in the Sugaring Operation
ACADEMIC MISCONDUCT: It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct at http://studentconduct.osu.edu

DISABILITIES STATEMENT: Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 098 Baker Hall, 113 W. 12th Avenue; telephone 292-3307, TDD 292-0901, VRS 429-1334; http://www.ods.ohio-state.edu/.

GRIEVANCES: According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, take your case to the department chairperson, college dean or associate dean, and to the provost, in that order. Specific procedures are outlined in Faculty Rule 3335-7-23. Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

DIVERSITY: The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

COUNSELING SERVICES: As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, and feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting ccs.osu.edu or calling (614) 292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at (614) 292-5766 and 24 hour emergency help is also available through the 24/7 National Prevention Hotline at 1-(800)-273-TALK or at suicidepreventionlifeline.org